

**REMARKS**

Claims 1-21 are pending in this application with claims 14 and 20 being amended by this response.

**Rejection of Claims 14 and 20 under 35 U.S.C. § 112**

Claims 14 and 20 are rejected under 35 U.S.C. 112 as having insufficient antecedent basis for limitations in the claims. Specifically, claims 14 and 20 recite the limitation "said cable modem system". The Examiner has correctly interpreted this limitation to mean "said modem system". Claims 14 and 20 have been amended to provide antecedent basis for this term. It is respectfully submitted that the amendment to the claims provides sufficient antecedent basis for all terms. In view of the amendments to the claims it is respectfully submitted that this objection is satisfied and should be withdrawn.

**Rejection of Claims 1, 4-8, 10, 13, 14, 16, 19, and 20 under 35 U.S.C. § 102(b)**

Claims 1, 4-8, 10, 13, 14, 16, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (U.S. Patent No. 5,202,914).

The present claimed invention recites a method for capturing an indication of system status in a modem performing a sequence of operations including groups of one or more individual operations having an associated status indication. The present claimed invention involves generating hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations. The generated status indications are captured and retained following initiation of repetition of the groups of operations and are provided as identification of an attained operational status of the system for operation diagnosis.

Kim et al. recites a system for automatically and remotely recharging a postage meter. The system establishes communication with existing electronic postage meters, obtains necessary information from the postage meters, compiles information to form a

message, transmits the message to a remote data processing system via telephone (modem), and receives in response a recharging code. The system transmits the recharging code to the electronic postage meter, which tests the validity of the code, and increments the meter descending register to affect the recharge.

It is respectfully submitted that the system in Kim et al. does not anticipate claim 1 of the present claimed invention. Contrary to the Examiner's contention, Kim et al. do not disclose "retaining said captured status indications following initiation of repetition of groups of operations" in a bi-directional communication system performing a sequence of operations as in the present claimed invention. Kim et al. disclose a transportable, secure postage meter recharging system that is more efficient than the prior art. Kim et al. disclose arrays of LED's to indicate error messages in recharging operations using a complex set of codes that must be interpreted using a code interpretation sheet similar to figure 2B. This is unlike the present invention which claims which is concerned with status indications corresponding to the sequence of operations in a bi-directional communication system performing a sequence of operations.

Furthermore, referring to claim 8, Kim et al. neither disclose nor suggest "maintaining said retained captured status indications in memory accessible by a User of said system" as in the present claimed invention. Referring to claim 10, Kim et al. merely suggest utilizing LED's to display the current status of the system, but neither disclose nor suggest "displaying said retained captured status indications as hierarchically ordered visual indicators" as in the present claimed invention. By contrast, the present claimed invention discloses visual indications representing the sequence of operations performed, for example, in an initialization of a modem. This innovation incorporates diagnostic capabilities sufficient to support in-home fault diagnosis and status identification.

It is also respectfully submitted that the system in Kim et al. does not anticipate claims 13 or 19 of the present claimed invention. Contrary to the Examiner's contention, Figure 2B does not teach "generating hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations wherein individual status indications are associated with corresponding

groups of operations and identify the status of groups of operations being performed prior to interruption by a condition including...a fault condition” as in the present claimed invention. Figure 2B of Kim et al. discloses a list of codes indicating specific errors in the system, but does not teach generating hierarchically ordered status indications such as the sequentially ordered tuning, ranging, connecting, configuring, and registering operations in the present claimed invention. Kim et al. disclose an LED coding system that must be interpreted by a code sheet (see figure 2B). This is unlike present claimed invention which simplifies the process with hierarchically ordered status indications, which may be understood logically without having to refer to a code sheet in order to diagnose an error in the operation of the system.

In view of the above remarks, it is respectfully submitted that claims 1, 13, and 19 of the present claimed invention are not anticipated by Kim et al. Since claims 1, 13, and 19 are not anticipated, dependent claims 4-8, 10, 14, 16, and 20 are also patentable. It is thus further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of claim 2 under 35 U.S.C. 103(a)**

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al., and further in view of the ACM6000EB Cable Modem User's Manual ("User's Manual").

As discussed above, the present claimed invention discloses advances over the prior art in that it generates hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations. Claim 2 discloses a limitation on claim 1 of the present claimed invention, wherein the “sequentially performed groups of operations comprise at least one of (a) an initialization procedure of said cable modem system, (b) a fault diagnosis procedure of said cable modem system and (c) an abnormal condition monitoring procedure of said cable modem system.

The User's Manual cited by the Examiner provides instructions to the user of an ASUSTeK® cable modem. The User's Manual discloses LED indicators used to indicate status of certain connections, for example, power on/off status, registration status, cable link status, PC link status, and test status. While the User's Manual discloses status indication, the status indications are not hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations as in the present claimed invention. In fact, the Test LED Indicator on page 7 of the User's Manual recommends contacting customer support if the Test LED indicator is on. By contrast, the present claimed invention discloses "retaining said captured status indications following initiation of repetition of said groups of operations; and providing said retained captured status indications as identification of an attained operational status of said system for system operation diagnosis". The User's Manual neither discloses nor suggests such an innovation. Even if the User's Manual teaches the use of a cable modem as disclosed in claim 2, Kim et al. neither discloses nor suggests the innovations of claim 1 as discussed previously in the rejection of claim 1. Since claim 2 is dependent on claim 1, it is respectfully submitted that this claim is also patentable for the same reasons discussed hereinbefore regarding claim 1.

In view of the above remarks, it is respectfully submitted that the User's Manual adds nothing when taken alone or in combination with Kim et al. that would make the present claimed invention unpatentable. Therefore, withdrawal of rejection under 35 U.S.C. 103(a) of claim 2 is respectfully requested.

**Rejection of claims 3 and 17 under 35 U.S.C. 103(a)**

Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al., and further in view of Unger et al. (U.S. Patent No. 6,230,326).

The present claimed invention discloses advances over the prior art in that it generates hierarchically ordered status indications reflecting the status of completion of

sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations. Claims 3 and 17 further limit claims 1 and 13, respectively, by reciting the “groups of operations include two different operations from operations including (a) tuning, (b) ranging, (c) configuring and (d) registering”.

Unger et al. disclose a method and apparatus for initializing cable modems. Unger et al. recite that initialization of the modem includes ranging, provisioning, and registration. This is unlike Claims 3 and 17 of the present claimed invention which disclose tuning, ranging, configuring, and registering. More importantly, Unger et al. neither disclose nor suggest generating hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations as in the present claimed invention. In addition, Unger et al. neither disclose nor suggest capturing and retaining the status indications following initiation of repetition of the groups of operations as in the present claimed invention. Furthermore, Unger et al. neither disclose nor suggest providing as identification of an attained operational status of the system for operation diagnosis as in the present claimed invention. Even if Unger et al. teach the initialization operations as disclosed in claims 3 and 17, Kim et al. neither discloses nor suggests the innovations of claims 1 and 13, as shown in the foregoing paragraphs. Since claims 3 and 17 are dependent on claims 1 and 13, they are also patentable.

In view of the above remarks, it is respectfully submitted that Unger et al. add nothing when taken alone or in combination with Kim et al. that would make the present claimed invention unpatentable. Therefore, withdrawal of rejection under 35 U.S.C. 103(a) of claims 3 and 17 is respectfully requested.

**Rejection of claims 9, 11, 15, 18, and 21 under 35 U.S.C. 103(a)**

Claims 9, 11, 15, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al., and further in view of McKaughan et al. (U.S. Patent No. 6,014,744).

The present claimed invention discloses advances over the prior art in that it generates hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations. Claims 9 and 11 limit claim 1, reciting “retaining the captured status indications during re-cycling of sequentially performed groups of operations” and “maintaining said retained captured status indications in a removable storage medium”. Claims 15, 18, and 21 limit either claim 13 or claim 19, reciting “the captured status indications identify the highest operational state reached in initialization of said system prior to an interruption and are provided in response to a User command”.

McKaughan et al. disclose a facility for performing selected operation as part of a booting process of a computer system. McKaughan et al. disclose storing a BOOTING flag that indicates whether the last iteration of the booting process was completed successfully. McKaughan et al. neither disclose nor suggest generating hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations as in the present claimed invention. McKaughan et al. concerns booting (initialization) of a computer system in which a user interface (i.e., monitor) is a required operational element. The present claimed invention, on the other hand, concerns a cable modem, or other bi-directional communication device, in which a user interface is not a required element. However, as shown in the present claimed invention, such a user interface (status LED's 89) is useful in obtaining a diagnosis of problems occurring during sequentially performed groups of operations. Even if McKaughan et al. teach identifying the highest operational state reached in initialization prior to an interruption and provided in response to a user command, similarly to Kim et al., McKaughan et al. neither discloses nor suggests the innovations of claims 1, 13, and 19 as shown in the foregoing paragraphs. Since claims 9, 11, 15, 18, and 21 are dependent on claims 1, 13, and 19, they are also patentable.

In view of the above remarks, it is respectfully submitted that McKaughan et al. add nothing when taken alone or in combination with Kim et al. that would make the

present claimed invention unpatentable. Therefore, withdrawal of rejection under 35 U.S.C. 103(a) of claims 9, 11, 15, 18, and 21 is respectfully requested.

**Rejection of claim 12 under 35 U.S.C. 103(a)**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al., and further in view of Schieve et al. (U.S. Patent No. 5,455,933).

The present claimed invention discloses advances over the prior art in that it generates hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations. Claim 12 is a limitation on claim 1 of the present invention, teaching "providing via remote access communication said retained captured status indications as hierarchically ordered fields of data indicators."

Schieve et al. discloses a circuit and method for remote diagnosis of personal computers. Schieve et al. disclose sending an indication of a selection of diagnostic routines to be performed from a remote location. However, Schieve et al. neither disclose nor suggest generating hierarchically ordered status indications reflecting the status of completion of sequentially performed groups of operations in which individual status indications are associated with corresponding groups of operations. Even if Schieve et al. teach sending an indication of a selection of diagnostic routines to be performed from a remote location, similarly to Kim et al., Schieve et al. neither disclose nor suggest the innovations of claim 1 as shown in the foregoing paragraphs. Since claim 12 is dependent on claim 1, it is also patentable.

In view of the above remarks, it is respectfully submitted that Schieve et al. add nothing when taken alone or in combination with Kim et al. that would make the present claimed invention unpatentable. Therefore, withdrawal of rejection under 35 U.S.C. 103(a) of claim 12 is respectfully requested.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the

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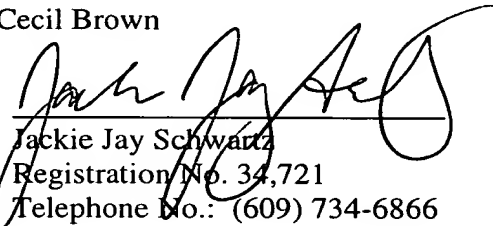
Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,

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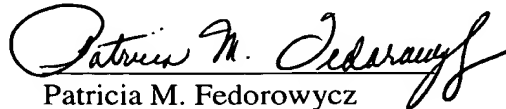
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